VANIER
ACADEMIC VOICES

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A Message from the Academic Dean

It is with great pleasure and pride that we launch *Vanier Academic Voices*!

In my first semester at Vanier, I have been trying to absorb as much as I can about the institution, its history, the people who make it come alive, and the many wonderful initiatives of its community members. What a pleasure it has been to discover such curious, engaged, and devoted faculty and staff, and how impressive it has been to discover the engagement in research, innovation, and partnerships! In August, at the New Employee Welcome Session, I enjoyed meeting a diverse group of new employees with many different backgrounds and experiences. At that time, it occurred to me to develop a means to share the wealth of knowledge and expertise we have here at Vanier as well as to offer tools to better understand our CEGEP network and our College. In the last few months, I have heard community members' wishes for better communication about academic initiatives and increased opportunities for pedagogical collaboration. From these conversations was sparked the idea of an Academic Sector magazine that would also support the need for quality documentation in English to help us adapt to the changing contexts of our College network and society at large. Additionally, it was my hope that such a publication would respond to the never-ending curiosity of Vanier's educators.

Vanier Academic Voices is the Academic Sector's magazine. The goal is to present pedagogical initiatives from all programs, departments, disciplines and services, and to give a voice to teachers, pedagogical counsellors, academic advisors, learning specialists, and managers, whose work offers invaluable contributions to the college's mission: *To provide a life-enriching experience that prepares students to succeed academically and professionally as engaged citizens of the world.*

We are all working together for student success; we are dedicated to our students and our mission to help them become better citizens of the world. Through our magazine, we will share initiatives, pedagogical activities, conferences, theoretical discoveries, faculty and staff publications, and practical strategies that further our goal to enrich students' lives. The magazine will also provide a way to share best practices to facilitate our collective work and to clarify perceived complex issues. We will gain a better understanding of the context in which we work, be it the seemingly unlimited needs of our students, the new pedagogical discoveries of our colleagues, the abstract issue of allocation, or the plethora of pedagogical initiatives underway in the college network. Let us share experiences, knowledge and pedagogical perspectives for the benefit of all!

I am also proud that *Vanier Academic Voices* will showcase student talents. The layout and formatting of this issue was designed by students from the 412.A0 OST: Micro-publishing and Hypermedia program, and many of the photographs were taken by students from the Vanier Photo Club. I'd like to extend special thanks to Shari Blaukopf, who seized the opportunity to apply MPHM program competencies in a realistic context by integrating this project into her course.

I hope that you will enjoy our new magazine and that it will have a long life. Thank you to all contributors!

Let's learn today, lead tomorrow, and celebrate the many good things about Vanier!

Annie-Claude Banville
Academic Dean

Contributing Disciplines in AHT: A Program-Approach Success Story

Animal Health Technology (AHT) has five contributing-discipline courses: two chemistry, both taught until this term by Sylvie Tardif, and four biology courses taught by Maria Panzuto, Claire Sergeant, and Heather Roffey. In a spirit of true collaboration, they and the AHT-discipline teachers have integrated these courses into the program. Tamara Brown, AHT teacher and part-time Pedagogical Counsellor, and Patti Kingsmill, Pedagogical Counsellor, sat down with the four teachers to discuss their experience with the AHT program.

Patti & Tamara: Could you tell us how you first came to teach contributing-discipline courses in the AHT program?

Claire: There are several microbiology contributing-discipline courses at Vanier. As a microbiologist, I wanted to try teaching each one.

Maria: In my case, the person who had been teaching the course retired. That was 16 years ago. I've been teaching it ever since.

Sylvie: A teacher went on sick leave, so I replaced him. I fell in love with the entire AHT group, not only with the students, but with the teachers and the course material too.

Heather: Three years ago, I took on the Anatomy and Physiology courses after a teacher retired. I would be very sad if I ever lost the chance to teach them. They seemed a perfect fit for me, since my Dad is a vet and I grew up on a dairy farm.

What do you love best about teaching contributing-discipline courses in a tech program?

Maria: I enjoy the students. They're very focused and serious about their studies. It's a joy working with them in the labs.

Heather: What I teach the students is so applicable to them. Also, I am always learning new things from the program meetings and the extra resources I read. I love watching how the AHT technicians interact with clients and simplify the information they communicate. I reflect that in my teaching: I explain concepts to my students in the same way they will need to explain them to clients.

Claire: When we ask for ways we can connect our course content with the program, AHT teachers and technicians are always generous in sharing with us.

Sylvie: Yes!

Claire: What we learn from the techs is amazing. They share their experiences with the students. Sometimes, when I'm going over the application of a concept, they'll tell the students, "Pay attention, because when you graduate you'll need to do this."

Maria: I agree. It really brings so much more to your class if you communicate with the techs and teachers and attend program meetings. You bring what you learn into your course.

Heather: I would echo that. I enjoy the collaborative process.

Sylvie, you have been teaching in AHT for over 20 years. Are you still learning?

Sylvie: Yes. I am always on the lookout for new applications for what I'm teaching. I'm always creating new real-life examples to help students apply their learning.

How would you characterize teaching a technology course?

Maria: The focus in pre-university and technology programs is different.

Sylvie: Very different. The first year I first began teaching, I came from research and industry and had trouble finding the right level of learning. In the second year, I threw out everything I had and put myself into the student's shoes. Once I did that, and integrated the resources given to me by AHT, I said, "Okay, let's first focus on applications, then we can go back to the concepts once we know why we are doing something."

Claire: Years ago, while working on a program revision, I learned to do backward course design. I liked that approach—looking at what students were expected to do once they leave the program.

Sylvie: Our students have to learn not to be afraid to use new instruments. They have to transfer their skills and build their confidence. As a teacher, I'm in the same situation. When I have to teach content that is new to me, I can reach out to my colleagues for help.

How would you describe your working relationship with one another as contributing disciplines? How do you limit unnecessary repetition between courses or support the transference of learning across courses?

Photo credit Gerald Nino

Photo credit Gerald Nino

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Sylvie: I know what Maria is teaching so I try to stay in step with that. We all have an idea of what the other is covering.

Maria: I have added Sylvie as a teaching assistant in my course on LÉA to avoid redundancies in what we cover.

Sylvie: And so we can reinforce certain concepts for each other.

Claire: We use some veterinary case studies and are in the process of creating more.

Are those cases provided to you by AHT teachers? Are they examined across multiple disciplines, each of you teaching a piece of the puzzle?

Claire: Yes, exactly. We are tired of the binge-and-purge method of studying. Now we can tell students that what they are learning with us will be needed for their case studies in other classes. Eventually, these case studies will be used throughout the entire program. For example, we might have a case study looking at sick fish: the health of a fish is reliant on aquaria, fish waste, and the nitrogen cycle. The concept involves both chemistry and microbiology.

Heather: We also have a case study that looks at chronic kidney disease.

Sylvie: And one focused on the biochemistry involved in the energy production of working dogs.

How do you balance teacher autonomy with program needs?

Sylvie: Collaborating with the program doesn't affect my autonomy. I'm not losing; I'm gaining because I'm learning.

Claire: It's actually nice knowing you don't have to cram in as much content as you might have expected. By focusing on the competencies, and what is relevant to the students, you streamline your course content and concentrate on ensuring students understand the concepts.

Sylvie: Ask us for help! And attend departmental meetings. Don't be afraid to ask for reference books. Be part of the team. That's very important.

In your opinion, what support can a program committee give their contributing-discipline teachers?

Heather: Invite them to program and department meetings. I would also say that if possible, contributing-discipline courses should be assigned to teachers with some seniority who are likely to reteach the course. If they are assigned to teachers at the bottom

and how their course contributes to the overall program.

Claire: And you have to explain your course's role in the program to your students. They are so overwhelmed with core courses, they sometimes put biology on a lower priority level, and they shouldn't.

Heather: Observing surgery labs really helped me. I saw students applying the theory I had taught them. Going on a field trip or visiting a stage site also really helps teachers get an idea of where their course fits into the program.

> *It really brings so much more to your class if you communicate with the techs and teachers and attend program meetings. You bring what you learn into your course.*

Sylvie: We love teamwork. We don't pretend to know everything. We are open and flexible to change and to modifying things.

Has working more closely with AHT impacted your motivation as a teacher?

Sylvie: Immensely. The AHT teachers provide me with information about practical veterinary applications of what I teach. I can then develop authentic problems for students to solve. I already know organic chemistry like a textbook, but the applications in the AHT field are new to me. It's fun learning about them! I grow as I learn.

What recommendations would you make to those teaching a contributing-discipline course for the first time?

All: Ask for help!

Claire: Ask help from the coordinator.

of the seniority list who may not get to teach the course again, they won't get the chance to improve the course and continue to integrate it with the other courses.

If the teacher gets overwhelmed, how can the program help?

Heather: Prioritize what needs to be covered. Make it clear what you expect the students to know upon completion of the course.

And understand the role your course plays in the program?

All: Yes.

Claire: Show them the grid. Give them the course framework for their course and maybe other relevant course frameworks.

Sylvie: They should have an idea of the program's competencies, exit profile,

Sylvie: I went to the Biodôme with AHT on PASS day. They talked about exotics, water, bacterial growth, and ammonia in water. It was very interesting and relevant to chemistry, biology, and microbiology. It's all linked!

Claire: Ask to visit other classes. I sought out the 4th term microbiology AHT teacher. I would always ask what she was teaching that day. This year, I asked to share an office with AHT teachers. It's great having that closer connection!

So you don't feel like you're on the margins? You know you're an integral part of the program?

Claire: Yes, we have been made to feel like we belong.

Patti Kingsmill is a Pedagogical Counsellor in the Pedagogical Support & Innovation office.

Tamara Brown is a veterinarian and teacher of Animal Health Technology. She also works part-time as a Pedagogical Counsellor in the PSI office.

Master Teacher Program: Teacher Voices

The following are testimonials from participants in the PERFORMA Master Teacher Program. The MTP is a graduate-level professional development program designed especially for Cegep teachers. The Université de Sherbrooke accredits three consecutive programs: the Graduate Certificate in College Teaching, the Graduate Diploma in College Teaching, and the Master of Education in College Teaching. For more information or to register for MTP courses, contact Vanier's répondante locale, Julia Hall.

Francine Cytrynbaum, Special Care Counselling. Taking courses in the MTP program has transformed my teaching approach to include dynamic and interactive techniques. It is more interesting for my students and me and I have noticed improvements in students' understanding and application of complex materials.

Marc Bélanger, Sociology. When I first started teaching, I had a lot of energy and passion. The MTP has given me the knowledge and skills to more effectively use that energy and passion in my teaching.

Fiona Rowlands, Early Childhood Education. The MTP has given me a wonderful opportunity to develop my teaching practices. Classes are meaningful, and the assignments have encouraged me to reflect on my teaching. It has helped me create a more dynamic learning environment for my students.

Maggie McDonnell, English. My experience with the MTP program was life-changing--I learned so much about teaching and pedagogy, and made some great friends along the way. The program was a great resource for me, and has made me a better teacher.

Karl Laroche, Biology. I was hired with a decent Science background, but almost no educational experience. Pursuing the MTP program has had a profoundly positive effect on me as an educator, on my classroom as a learning environment, and, ultimately, on my students.

Juan Alejandro Robles, Nursing. Because of MTP, I have grown as a CEGEP nursing teacher. One of the many ways my practice has changed is my clinical teaching approach which supports nursing student self-efficacy beliefs, which in turn increases the chances of student success in the clinical setting.

Michelle Bayard, Nursing. I knew early on in my teaching career that I lacked the pedagogical understanding and principles to transfer knowledge effectively. The MTP enhanced my understanding of the processes needed to teach effectively and led to a greater understanding of my teaching philosophy.

Caroline Chwojka, Humanities. The MTP courses that I took in the last few years helped me realize the importance and necessity of deep learning through more appropriate teaching and learning strategies. These have allowed me to focus on the quality rather the quantity of content offered to students.

Alana Baskind, English. The MTP has been invaluable to my professional development. The tools, knowledge, and experiences attained have made me a more confident, competent, and professional instructor. I can now harness learning preferences and create a positive learning space for all students.

Niloufar Entekhabi, Economics. Taking courses in the MTP made me realize that Teaching is about Learning and not about Teaching ... We are so concerned about our Teaching, how to meet the deadlines and teach our topics, that we might easily forget our connection to students and their learning.

Nicholas Rudi, Industrial Electronics. Expert teachers make teaching look easy. The reality is that becoming an expert teacher is a learned skill. For me, these skills were acquired from sharing knowledge with like-minded teachers in the MTP. While completing the program, I learned the skills to become an expert teacher.

Heather Roffey, Biology. I enjoyed taking the MTP course partly because it placed me in the role of a student again. The content of "College Teaching & Course Design" was very relevant to my teaching as I found that the concepts learned and activities completed were directly applicable to my new course.

Patricia McClurg, Respiratory & Anesthesia. By taking the MTP program, I was able to gain insight into what being an effective teacher meant. The courses, grounded in pedagogical theory, taught me to reflect on my teaching and to focus my teaching approach to facilitate students' learning.

Rebecca Allsopp, Early Childhood Education. Although I was a good teacher and taught my discipline well, the MTP program made me a more conscious teacher and showed me how to translate my passion for the Early Childhood Education field more efficiently to my students.

Wilma Brown
is a former *répondante locale*
for PERFORMA MTP and current
Assistant Dean.

Vanier LaunchBox: Bringing Innovation to Students

Innovation is not an unfamiliar term, and it's become rampant in many industries. We've heard of Uber rethinking the way we move through cities, Airbnb opening doors to travellers, and Tesla building a greener future. These are but a handful of popular examples. Companies around the world are looking for ways to change the paradigm, to lead their respective industries into the future.

But what is innovation? Is it just buzz word that's part of the latest trend or is there more to it? According to the *Réseau québécois en innovation sociale* (n.d.), innovation is about creating change in the form of a service, product, or a way of doing things (e.g., a process or law) by bringing new ideas to

> *We are seeking to work with students to help them develop some of the important competencies and skills needed in the 21st century.*

life or transforming existing ideas. It can be social and/or technological in nature and often seeks to introduce a collective benefit for a given group.

Corporations are not the only ones pushing innovation. For a while now, universities have also been on board, looking for ways to foster innovative thinking among their students while developing and providing a framework that supports students in bringing their ideas to fruition. Concordia University's D3 Center (n.d.) *"is an innovation hub uniting the Montreal ecosystem for innovators*

to move from idea to impact with confidence". The J. Armand Bombardier Incubator is a joint venture between Polytechnique and Université de Montréal which aims *"to contribute to the emergence and growth of innovating technology-based businesses"* (Polytechnique Montréal, n.d.). These are but two local examples with a surge of new centres launching throughout the province. It should not come as a surprise, however, since Quebec's Research and Innovation Strategy envisions that the province will become "one of the most innovative, creative societies in the world" by 2030 (Économie, Science et Innovation Québec, 2017). As such, innovation is being fuelled by the government at both the industry and academic levels, and Vanier has seized the opportunity to take advantage of this as of this year.

Vanier LaunchBox is a three-year, institutionally-supported and government-funded initiative undertaken by the Learning Commons with the goal of triggering social, technological, or business innovation and creativity and encouraging outside-the-box thinking through student-led projects supported by staff, faculty, and industry. It flips our usual approach of animating activities that we feel students may want to participate in. Instead, students who become involved in LaunchBox will be have the opportunity to propose projects that they are passionate about. Projects can aim to: 1) make Vanier better; 2) improve the community; or 3) partner with companies to solve industry

problems. Proposed projects are then evaluated by a committee, and accepted projects are funded and supported in some form by Vanier. At the end of every semester, teams will be asked to demo their projects and will have the possibility to receive additional support and win prizes in recognition of their innovative works.

Starting in the Winter 2018 semester, LaunchBox will host a number of workshops open to all members of the community, including faculty and staff. These sessions will focus on design thinking, usability testing, programming, entrepreneurship, innovation, and more. Moreover, Vanier's HackerSpace (located in D-301) will be further equipped to provide an area where students can get hands-on with their learning and tinker away creatively. Effectively, with LaunchBox, we are seeking to work with students to help them develop some of the important competencies and skills needed in the 21st century, as outlined in a recent report from the World Economic Forum (2015). In particular, students actively participating will develop foundational literacies such as ICT, financial, and cultural literacy; sharpen character qualities like curiosity, intuitiveness, leadership; and most importantly, develop competencies such as problem-solving, creativity, communication, and collaboration.

Finally, having students take part in innovation while in higher education is not only about helping them develop critical competencies that are transferable to their careers later on, it is also an investment for the future. Investing in students, ideas, and innovation today will lead to a more prosperous tomorrow for Canada (Universities Canada, 2017).

Photo credit Gerald Nino

For more information on innovation at Vanier, visit the LaunchBox site at: http://vaniercollege.qc.ca/msc/launchbox

Staff and faculty who are interested in becoming involved as mentors or would like to contribute to LaunchBox in some way are welcomed to contact me at kavalloh@vanier.college.

Haritos Kavallos is the Coordinator of the Vanier Learning Commons.

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Eurocentrism in the Curriculum:
A Barrier to Indigenous Student Success

Thanks to the work of the Truth and Reconciliation Commission of Canada (2015), which spent 5 years researching government and church archives and collecting testimonies from Indigenous survivors of residential schools, many more non-Indigenous Canadians are aware of the long-term impacts of these schools on Indigenous populations. There is still an overall lack of awareness of how and why this history has affected the state of mind and motivation of Indigenous students, but the increased coverage of the topic in the media and in education are a sign of improvement in this area. A more difficult barrier to break is the general lack of awareness of the extent to which Eurocentric thinking permeates the educational system at all levels and continues to negatively impact Indigenous peoples and the perceptions of Indigenous peoples by non-Indigenous Canadians.

Several Indigenous scholars and educators from Canada and elsewhere have described the Eurocentric nature of the knowledge that is presented in Euro-Canadian institutions at all levels. Goulet and Goulet (2014) have explained that the very theories of teaching and learning, for example, are based in Eurocentric thinking, leaving out the diverse, rich ways in which Indigenous peoples have known about their world for millennia. Similarly, Smith (1999) has argued that the worldviews in which academic disciplines are rooted actively exclude other knowledge systems. Battiste (2013) has described this as cognitive imperialism, in which European-based knowledge is centred at the expense of other forms of knowledge.

Eurocentrism is so deeply engrained in the educational system, according to Battiste

(2013) that the validity of the knowledge goes unquestioned. True and valid knowledge is perceived as politically neutral, and the European worldview from which academic knowledge is derived is not recognized. Similarly, Smith (1999) has argued that "The globalization of knowledge and Western culture constantly reaffirms the West's view of itself as the centre of legitimate knowledge, the arbiter of what counts as knowledge and the source of 'civilized' knowledge. This form of knowledge is generally referred to as 'universal' knowledge, available to all and not really 'owned' by anyone" (p. 63). However, as argued by Battiste (2013), "There is no neutral knowledge system. All knowledge about nature is socially constructed" (p. 199).

According to these scholars, Eurocentric bias in education, when unquestioned, contributes to the further marginalization of Indigenous peoples and their ways of knowing and learning. Battiste (2013) and Smith (1999) have demonstrated this with regards to the humanities, which underpins many other disciplines such as those in the social sciences, and the sciences taught in Euro-Canadian schools. Both of these major fields can be traced back to periods in European history where some worldviews took precedence over others. Battiste (2013), for instance, has argued that Eurocentric humanities emerged during a period of exploration and conquest and that they are intricately tied to the rise of the racial classification. Citing Said's (1977) work on the way in which European knowledge became "normalized" at the expense of the exotic other, she demonstrated that with racial classification came a centering of European knowledge. Similarly, the classification systems used in science, and given legitimacy

and "naturalness" in educational textbooks, do not take into account the cultural context from which they came forth.

The worldviews that underpin Eurocentric academic knowledge are vastly different from Indigenous worldviews. Sparkes and Piercey (2015) have elaborated on this difference with regards to Western Science. Indigenous worldviews tend to be holistic, privileging an interconnected view of the various elements of life: humans, animals, plants, and so forth. Western Science, on the other hand, focuses on analysis of the individual elements. Furthermore, Indigenous worldviews are based on direct experience in nature, particularly in one's ancestral territory. Western scientific worldviews are based on facts gained in controlled environments such as labs, often disconnected from their original contexts.[1]

The exclusion of Indigenous worldviews, knowledges, and methodologies, according to all the above-mentioned authors, provides an incomplete picture of the world, which is detrimental to all people. For example, as illustrated by Sparkes and Piercey (2015), Battiste (2013), and Nelson (1993), Indigenous ways of knowing provide in-depth understandings of local environments – understandings that have helped Indigenous populations adapt to and survive in a variety of habitats in North America and elsewhere for thousands of years. As explained by Goulet and Goulet (2014), through observation and direct experimentation, and thanks to a rich oral tradition that records events and movements over time, Indigenous peoples have come to conclusions about their world that are increasingly corroborated by Western science.[2]

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[1] See Sparkes and Piercey (2015), page 4, for a chart that provides a more detailed comparison of Indigenous worldviews and Western science.
[2] See http://www.cbc.ca/beta/news/technology/science-first-nations-oral-tradition-converging-1.3853799 for an example of a recent news story showing that Western science is increasing corroborating Indigenous knowledge.

This exclusion is particularly harmful to Indigenous students. As Battiste (2013) and Goulet and Goulet (2014) have argued, the trivialization of Indigenous knowledge and learning contributes to the social marginalization of Indigenous peoples. The treatment of Indigenous knowledge as archaic and unscientific, for instance, and the simple focus on negative statistics when dealing with Indigenous topics from a Eurocentric point of view hurts the self-esteem of Indigenous students as they internalize negative stereotypes and develop feelings of shame about their Indigenous heritage. They therefore doubt the validity of their own ancestral knowledge systems and their capacity to achieve academic success. Further, the invisibility of Indigenous contributions to Canadian society in the curriculum leads Indigenous students to feel as though they do not have a place in academia. According to Goulet and Goulet (2014), internalized racism resulting from a Eurocentric and stereotypical portrayal has a direct impact on the low numbers of Indigenous students at all levels of education.

Moreover, the well-intentioned inclusion of Indigenous topics, usually without the consultation of local Indigenous communities, still often suffers from a Eurocentric bias. A lack of consideration for the diversity of Indigenous cultures, histories, and knowledges, for example, contributes to the idea that all Indigenous peoples are the same, contrary to the diversity in European-based populations that is more frequently acknowledged in schools. Many teachers at Vanier, for instance, discuss "Native culture" – note the singular "culture" – and fail to distinguish between Inuit, Métis, and First Nations, and between individual First Nations societies. As advocated by Battiste (2013), Goulet and Goulet (2014), as well as several speakers at conferences I have attended in the past 2 years, it is crucial to recognize these distinctions as Indigenous knowledge is rooted in place.

Furthermore, typical portrayals of Indigenous populations either focus on a glorified past or on a problematic present, therefore perpetuating the idea that Indigenous populations are somehow "deficient" and unable to adapt to contemporary society. For instance, as Dr. Adeela Arshad-Ayaz pointed out in her keynote address during the "Inclusion in Action" conference held at Vanier College in May 2015, high school textbooks in Quebec include many pictorial representations of Indigenous peoples when discussing pre-contact times. However, any discussion of contemporary Indigenous populations focuses on socio-economic indicators relating to "social problems" such as suicide and intoxication. Little visual material providing positive imagery of contemporary Indigenous peoples is provided.

All in all, Indigenous scholars and educators agree that an "add and stir approach," as described by Battiste (2013), where Indigenous content is added to existing curriculum without providing the proper cultural and historical context is more detrimental than helpful. As argued by Goulet and Goulet (2014), "When improvements in Indigenous education focus primarily on cultural pro-gramming, taught within the framework of current schooling practices, the initiatives do not expose or challenge power relationships within our society" (p. 22).

Fortunately, more and more educators acknowledge this lacuna in their own education. At Vanier, we are engaging in several efforts to bring Indigenous knowledge into our curricula. The response has been phenomenal. For instance, not only do we have 30 people signed up for a sensitization program on Indigenous Education, but we have a waiting list of over 10 people and many more people inquiring about future iterations of this program. Further, there has been massive support from departments across faculties for the upcoming Indigenous Studies certificate program. In September 2017, Vanier signed the Indigenous Education Protocol (Colleges and Institutes Canada, n.d.), which shows our commitment to continue our efforts on this front.

Jacky Vallée
is a teacher of Anthropology
and Co-founder of the
Vanier Indigenous Circle.

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A Co-Design Approach to Engaging Colleagues in Active Learning Pedagogies

Dialogue between two Physics teachers:

Kevin:
Hey Rhys! Do you feel that today's activity was effective?

Rhys:
I think the students had fun during the activity, but the end fell flat. I do not think that they left the class with a clear "take-home" message. The previous activity felt better to me.

Kevin:
Well, we have about two weeks before the next activity. Let's re-think the script and focus on making the learning flow better. Keep the fun, but make the learning objective more visible. Do you want to keep the next activity photo-based?

Rhys:
Yes, that part works well.

Kevin:
I like it because it gets students thinking creatively at home, then they can come to class, share and learn some more.

Rhys:
But we need a better final group activity, in-class, to consolidate the learning.

Kevin:
OK, keep the photos, but maybe constrain the choices more so we can give a team quiz as feedback at the beginning of class. For the final activity, we have a bunch of clicker questions but let's use the really tough ones, and make it group response rather than individual… That design will get the team discussions going and introduce a bit of competition.

Rhys:
Sounds interesting; let's try it…

Introduction

Active learning is a pedagogical approach where students are engaged in classroom activities, as opposed to passively listening to lectures. In a more traditional style of teaching, the instructor does most of the talking, restricting opportunities for dialogue between instructors and students. In an active learning setting, the students are at the center of the activity. The instructor leads and scaffolds meaningful activities that facilitate student engagement with the subject matter and between the students themselves. There is accumulating evidence that active learning techniques, when implemented correctly, positively impact the learning and motivation of students as well as retention in STEM-based programs [1-7]. However, not all instructors embrace active learning. They may have misconceptions about active learning or see no real benefit to it. Without persistence or guidance, instructors get discouraged and return to a more traditional style of teaching. In this article, we report on how activity co-design can engage more instructors in active learning pedagogies.

Co-designing active learning pedagogies

Active learning pedagogies are meant to be engaging for students, but ultimately, instructors must assure that learning is achieved. Once a desired learning outcome is identified, pedagogy researchers and instructors collaborate on the design of a new active learning pedagogy. It is an iterative process that involves feedback, not only between the pedagogy researchers and instructors, but also with students via its implementation.

In the co-design process, the following three aspects need to be considered:

1. Discipline content: For example, designing an activity that will help students understand Newton's third law force pairs.

2. Resources available: What technologies do you have access to and/or wish to use? What type of classroom do you have? Will tutors be present in class? Etc.

3. Pedagogical design principles to implement: Will the activity include individual and/or team components? Will the activity extend to pre- and post-class? What knowledge and cognitive processes (Bloom's Taxonomy) are students to obtain and achieve? Etc.

To highlight the process, we will consider active learning pedagogies developed for a mechanics course held in a "versatile classroom." These strategies use web-based educational platforms and employ peer instruction and flipped classroom approaches.

In terms of discipline content, a recurring theme in classical mechanics is the analysis of forces. Students need to set up correct free body diagrams (a tool to analyze forces on objects) and to correctly analyze the forces acting on bodies. Many of the activities that we have designed therefore include a component where students must produce free body diagrams.

Our versatile classrooms are equipped with white boards along the perimeter of the room; one of these is in the front for instructor use and the rest are primarily for student use (e.g. to draw free body diagrams, brainstorming, problem solving, etc.). There is a projector and an interactive board (e.g. SMART Board) for audiovisual display, annotation and saving, 15-20 laptops for student use, and tables and chairs that can easily move and be reconfigured for student groups. Digital platforms such as Smart Amp (smartamp.com), Visual Classrooms (visualclassrooms.com), and Phet simulations (phet.colorado. edu) are employed. These resources allow activities to run outside the traditional spatial and temporal boundaries of a class; activities are designed to have pre-, during-, and post-class components. Furthermore, each stage of the activity can have individual, group (or team), and whole-class aspects. In addition, in-class tutors (second year students) are often available to assist the instructor, thus permitting flexibility with group size.

A script, displayed in figure 1, has been developed to aid in the design of activities. Each step of the activity is defined by 1) When and where does the task take place? 2) Who performs the task(s)? 3) What type of tasks are involved? 4) What cognitive process is to be used, as defined by Bloom's taxonomy?

When and Where: Pre-class activity done out-of-class
Who: Individuals and Group
What: Collection (information, data, photo, etc.)
Bloom: Understand, Apply

When and Where: In-class Activity
Who: Group and Class
What: Collaboration / Heuristic
Bloom: Apply, Analyze, Evaluate, Create

When and Where: Post-activity done out-of-class
Who: Individuals and Group
What: Correction / Reflection
Bloom: Analyze, Evaluate

When and Where: Post-activity done in-class
Who: Group and Class
What: Consolidation / Sharing
Bloom: Analyze, Evaluate, Create

Figure 1: Script used to aid in the design of activities.

(a)

These are pictures of Patrick Kane taking a slap shot, taken in a youtube video. The puck being the small body and Kane being the larger one. The before to after is from right of the page to left.

Figure 2:
Example of a student's contribution (a) pre-class and (b) post-class for conservation of linear momentum activity.

(b)

All of the designed activities involve students analyzing photos of an "everyday" event. The students are encouraged to take their own photos, be in the photo, or use a photo they find interesting from the internet. For example, in one such activity for conservation of linear momentum, students must present a sequence of photos of two interacting objects before, during and after the interaction. Before coming to class, students need to upload their sequence of photos, prepare free body diagrams of the two interacting objects, and provide a rationale. Each student is assigned to a group, and each group has a digital group space (in Smart Amp or Visual Classrooms). The students can comment on each others' contributions prior to class. To help guide the students, the activity is constrained: in this case, each group has to showcase at least one example of each of the following features: 1) the mass of one of the objects is much greater than the other mass, 2) the change in total kinetic energy of the objects is small (approximating an elastic collision), 3) the change in total kinetic energy of the objects is large (approximating a totally inelastic collision), and 4) the initial velocity of both objects is zero. An example of a student entry is presented in figure 2 (a).

In-class, students work together in their groups in order to critique and correct their free body diagrams. The students are then to develop a heuristic for analyzing the free body diagrams of interacting objects (i.e. linking conservation of momentum of a system, impulse on an object, Newton's third law, etc.). They are then presented with a series of conceptual and quantitative questions to analyze and solve as a group using their heuristic. This activity lasts 1.5 – 2 hours.

Kevin:
Hey Rhys! I don't really know what a heuristic is, what does it mean in this context?

Rhys:
Oh, just a practical rule of thumb, how can students identify the important features, using their own words.

Post-class, the students upload their corrected free body diagrams, explain and reflect on what corrections were made, and finally, prepare a short question based on their photos. The students complete this in their assigned group space and comment on each other's final work until all students submit correct free body diagrams. The instructor has access to the group space; he/she can comment to a student or to the group and answer questions that students may still have. An example of a student final entry is provided in figure 2 (b).

Finally, there is a consolidation period in the following class where the instructor highlights the key learning objectives of the activity and shares the developed group heuristics.

Getting more instructors on board

Several activities have been developed using the script. These activities have been shared with the Physics department, and variations of each activity have been co-designed with instructors such that they have been adapted to their needs and available resources. As a consequence, instructors teaching in different classrooms (in traditional rooms or in rooms with up to six interactive boards) as well as those who wish to use less digital technology can still accomplish the activity. Furthermore, some instructors have experimented with team-teaching, thus providing the students with two instructors to discuss with. In total, about eight Physics instructors now use one or more of these activities in their mechanics classes.

Conclusions

We have now more instructors engaged in active learning pedagogies through activity co-design. The iterative co-designing process and the three aspects of activity design are illustrated. Active learning pedagogies developed for the mechanics course taught in versatile classrooms have been highlighted: the activities are multi-stage (pre-, during-, and post-class) and consist of both individual and group components. Variations of each activity have also been co-designed, thus allowing more instructors to employ them. Our goal is to build on this experience, that is, to co-design more active learning pedagogies for mechanics as well as other physics and science courses, and to allow more instructors to participate in the process. Ultimately, by engaging more instructors in active learning pedagogies, more students will engage with class content in meaningful ways, leading to a more positive experience for both instructors and students.

Kevin:
Hey Rhys! So, what's the learning objective from this article?

Rhys:
Well…. As teachers, we need to practice what we preach: be creative, ask questions and try out new things. Don't give up when things don't work out, but make them better.

Acknowledgments

Kevin Lenton and *Rhys Adams* are teachers in the Physics department. They are both involved with pedagogy research and innovative teaching. Rhys has a FRQNT grant for photonics research, and Kevin a PAREA grant for pedagogical research.

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Making Learning Accessible: The UDL Task Force at Vanier

The Universal Design for Learning (UDL) Task Force had its first official meeting in January 2017. Our members came together from different departments and disciplines throughout the college, aiming to work as a collective. Our mission is to develop a deep understanding of UDL; to determine how best to implement UDL principles and practices into our own teaching; and to make tools and resources available for all Vanier faculty to facilitate the integration of UDL into their courses. As a diverse group of teachers, we each bring our own disciplinary understanding and experience to the UDL Task Force, along with a shared desire to make our teaching accessible to all Vanier students.

Members of the Task Force are currently working on a UDL Toolkit that will be available to all Vanier faculty members. This toolkit will have articles, classroom exercises, how-to suggestions, and examples of UDL that have already been successfully implemented. It will also have links to different UDL-centred publications, as well as UDL organizations that promote an accessible learning classroom environment. Making learning accessible to all students is the primary focus of UDL. To accomplish this objective, we need to recognize the variety of learning styles our students have, and determine what we can do to change or modify our own teaching to best reach the students in our classes.

Changes in the student population, in terms of ability and experience, have been observed over the years. These observations have created the need for a UDL-centered classroom environment (Edyburn, 2010). The purpose of a UDL-centred curriculum is to help students master their learning, becoming expert learners within their areas of study. A UDL focus in the classroom is also meant to encourage students to take ownership and responsibility for their learning (CAST, 2011). Putting students at the center of course design will ensure that we have incorporated

some of the fundamental elements of UDL. These elements are the guiding principles of UDL ideology. They are:

1. To provide multiple means of Representation – the 'What'
2. To provide multiple means of Action and Expression – the 'How'
3. To provide multiple means of Engagement – the 'Why' (CAST, 2011).

The toolkit that the UDL Task Force is currently curating will offer an abundance of tools to faculty. Teachers will be able to peruse, assess, and implement within their classrooms. The following examples from members of our Task Force offer practical, tangible, UDL-centred practices that have been tested within our own classrooms. We encourage you to transfer them to your classroom experience, and experience for yourselves the impact on student engagement.

In Tamara Brown's Animal Health Technology class, students are given the opportunity to submit the introduction and thesis statement for their final project for a small summative evaluation as well as for a deeper, more extensive, formative assessment. This enables students to get timely feedback from their teacher, determine if they are on the right track for their larger project, and have the opportunity to revise their work based on comments from the teacher. These factors contribute to a UDL classroom climate that encourages open and accessible dialogue with the teacher, and they offer students multiple opportunities for assessment –in this case both formative and summative – and a resubmission if desired.

At the beginning of the semester, Tamara uploads detailed rubrics for all assignments and projects along with her course outline. These rubrics ensure that students are aware of the grading scheme for their assignments. This knowledge helps reduce stress and anxiety and clarifies teacher and student expectations. Moreover, students use the

Photo credit Gerald Nino

rubric while working on assignments. Clear, guided instructions and explicit expectations are fundamental to accessible learning.

In Psychology, Shelley McColl has shown students how to use PowerPoint's Outline view, which offers a summary of every slide. It is a helpful reminder for students when they want to review, study, or follow along during class. The Outline view is found under the View heading in the PowerPoint toolbar. It is also useful for designing review sessions to activate students' prior knowledge, as well as for providing an outline for the class so that students know what will be covered that day.

Another UDL strategy employed by Shelley is to engage students kinesthetically. To demonstrate the connectivity of neural synapses, she asks everyone to stand up and form a human chain around the classroom. The students stand shoulder to shoulder, each representing a neuron. A message is then passed from "neuron" to "neuron," until the last student in the line performs an action. This level of physical engagement is an important UDL principle. Not all students are able to master learning while sitting at a desk, passively listening to a lecture. Building connections and deepening learning happens when we engage students through various means of representation of our course content.

For one of her Biology classes, Lissiene Neiva asked students to find a seed in their kitchen. This project began as a brainstorming session in class, as students discussed various foods that start from seed. They then planted the seed and took pictures as the seed grew, thus documenting the development of their seedlings. The written component of the project required students to reflect on how course content connected to their observations of plant growth. This kind of project, where learning includes a tangible component, is of great value to all students.

Nathalie Seguin, a Nursing teacher, is likewise applying UDL practices in her classroom. The Nursing department uses a variety of simulation-based activities to facilitate students' integration of course content. Such activities include the use of patient simulators (mannequins), standardized patients (actors), lifelike virtual environments, task trainers and role-playing. With the recent acquisition of high fidelity mannequins and two simulation suites, students have the opportunity to be immersed in realistic clinical experiences within a safe learning environment. The focus of these simulated experiences is the transfer and application of knowledge, not formal evaluation.

In simulation, the teacher's role is that of a facilitator, guiding the students to achieve their learning objectives. This is done by creating a comfortable environment where participants are encouraged to self-reflect, self-correct and search for evidence-based solutions. Making mistakes in this type of learning environment is seen as an opportunity to learn and grow, and not ever seen as a failure.

Mastery of learning through multiple means of representation, engagement, and expression is the goal of a UDL-centered learning environment. The examples shared in this article are meant to encourage and promote the implementation of ideas and activities that can lead to greater student success in all of our classrooms.

For more information about the work of the UDL Task Force, please visit http://www.vaniercollege.qc.ca/psi/pedagogy/universal-design-for-learning-task-force/

Elana Cooperberg
was until recently the Coordinator of Commerce and a member of the UDL Task Force. As of January 2018, she is the Coordinator of Pedagogical Support & Innovation.
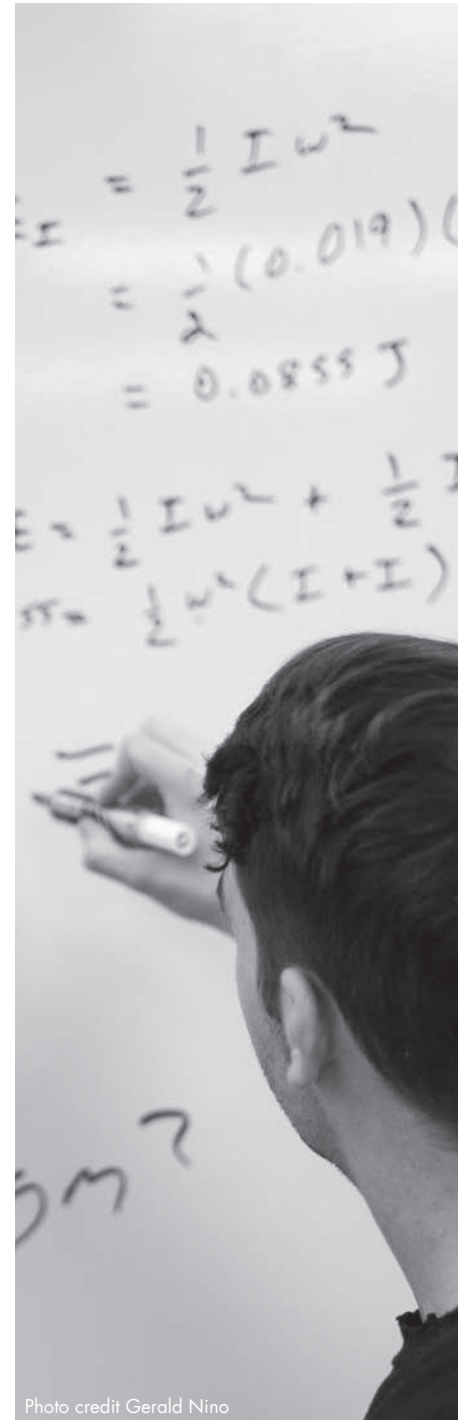
Photo credit Gerald Nino

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Close Encounters of the Academic Advising Kind: Four Stories

LIGHTBULB MOMENT

Eunice came to see Myra because she had done poorly in the day division of the Nursing program. She was currently attending evening classes to upgrade her academics in order to return to the Nursing program in the day.

After discussing the number of courses Eunice had taken and whether the results she had obtained were sufficient, Myra asked what she thought was a perfectly innocent question: "Well, you've been out of Nursing for two years now; what have you been doing?"

"Odd jobs here and there. I want to get back into school in the day."

"I can see that; you wouldn't be taking evening courses if you didn't. And you've done quite well."

"Thank you."

Because Myra knew that Eunice's readmission to the Nursing program was far from certain, she thought she had better keep the conversation going. "So, tell me, why do you want to be a nurse?"

Eunice looked at Myra but did not say anything.

Myra watched Eunice and waited.

Eunice continued to look at Myra without saying anything.

Myra continued to wait in silence.

Suddenly, Eunice's face took on a look of wonder. "You know what?" she said, finally breaking her silence. "I don't want to be a nurse!" And now her words came rushing out: "In fact, I never wanted to be a nurse, my mother is the one who wanted me to be a nurse.

"And you know what else? I never even asked myself the question. I just went into Nursing unthinkingly.

"But I don't want to be a nurse." Eunice stated this with the utmost firmness.

"And I'm not going back into Nursing," she continued. "I even know what I want to do. I love languages. I'm going to go back to day school to study languages—

"Oh, my goodness!" Eunice caught her breath and smiled broadly.

"In that case," Myra smiled right back, "let's make a new plan."

She flipped her program binder to the Languages and Cultures program grid and began to explain the ins and outs of the program to Eunice.

THE SMILE

Myra was working with a student who had set her mind on going into business but whose grades overall (and whose mathematics grades in particular) were not strong enough for admission to a business program at university.

Round and round they had gone – about how to upgrade overall, about how to upgrade in mathematics, about the absolute prerequisites of the program, and ultimately about how, whichever way you looked at it, the student's lack of math ability was going to stymie her.

About five minutes before their time was up, Myra stepped out of her role of Academic Advisor and asked a seemingly non-academic question, the question of an interested, curious fellow human being. "Tell me something, Christina. If you were totally free, if you were

to close your eyes and dream about your ideal job, about what you would really like to do, what would that be?"

Christina did not have to close her eyes; she knew the answer to that question right off, and her face, which throughout her appointment had been closed and tight, broke into the broadest of smiles.

Myra was so taken aback—the contrast between their difficult, uphill conversation —it had seemed as if they had been climbing an insurmountable mountain for twenty-five minutes— and the transformation in Christina that had just taken place before her eyes—there was only one thing to do: tell the student what she had just seen. "Christina, I wish you could see your face, I wish you could see your smile. I am not telling you what to do; I am just telling you what I just saw, a smile that changed you, that relaxed you, that freed you. Now it's for you to decide what you want to do with that smile."

WISE BEYOND HER YEARS

One of the stories Myra liked to tell students with whom she discussed careers was a story she brought with her from her experience as Admissions Coordinator.

Times were tough, extremely so—it was the early '80s, the entire country was in a deep recession—and in addition to her duties dealing with admissions requests, Myra also handled all program transfer requests. The request form was a straightforward form, but it happened to include a space in which students could make comments and explain why they wanted the change they were asking for.

Most students left the space blank. If they had started in Science and were asking to change to Business, it was clear that they had realized Science was not for them.

Or if they had started in one of Vanier's three-year programs and were asking to change to a two-year program, they had realized that their three-year program was not for them.

Myra did not remember whether, when Nancy asked to change from her two-year Communications program to Vanier's three-year Animal Health program, she had written anything in that space. Given the times, a three-year program that would train you to work as a Veterinary Technologist seemed like a more practical choice than a Communications program that led to further study in areas where job opportunities were scarce.

But a year later, Nancy was back. She wished to return to Communications. This time when she filed her transfer request, she did write something in the space provided for comments. And this is what she wrote: "If I'm going to be unemployed, I might as well be unemployed in the field that I love."

THE TRUE DEFINITION OF "AWESOME"

Early in the 1990s, a group of bridging courses in mathematics and science was created to help students transition between studying science in high school and studying science in CEGEP.

Then, for a two-year period in the mid-'90s, these bridging courses were retired. Vanier continued to offer these courses, but they no longer counted for credit. They were imposed on students for the same reason they had originally been created: to help students with weaknesses in their math/science background succeed at college.

Two years later, however, these courses were resuscitated under a new guise and were again deemed credit-worthy.

Daniel had been admitted to Vanier College during the two-year period when the courses did not count. He had not graduated by the time these courses had begun to count again, so when he sat down in front of Myra to register for summer school, he fully expected to register for two science courses during the shortened summer semester ahead of him. Shortened because science courses were normally offered at a pace of five hours per week over a fifteen-week period, while summer courses were offered at a pace of twelve hours per week over a six and a half week period. With two courses to take—and these were advanced science courses—Daniel was going to have twenty-four hours of tough science classes per week, for the next six-and-a-half weeks.

Unbeknownst to Daniel, the academic advising staff at Vanier had decided to disregard the two-year hiatus imposed on the credit-worthiness of those bridging courses, judging that if they had once carried credit and did so again, they should never have stopped carrying credit.

Myra took a look at Daniel's transcript and said as much to him.

"You're kidding me," Daniel said, leaning forward in his chair.

"No, I'm serious," Myra replied.

"You're kidding me," Daniel said again, leaning further forward in his chair.

"No, I'm serious."

"You're kidding me," Daniel said a third time, still unable to believe what he was hearing.

"It didn't make sense," Myra explained. "These courses counted once upon a time, then they stopped counting, then they started counting again. So we decided—"

At which point Daniel leaned back in his chair, threw back his head and cried, "Awesome."

"Awesome!" Daniel cried again as he raised his hands shoulder-high and shook his fists triumphantly.

"Awesome!" Daniel cried yet again. Then he jumped up from his chair. "I don't know how to thank you," he said. "Oh, my god, oh, my god," he mumbled as he picked up his transcript, grabbed his backpack and raced out of the room.

Debora Resnick
is an Academic Advisor.
Before becoming an Advisor, she served
as Vanier's Coordinator of Admissions.

Photo credit Pam Espinosa

Striving for Best Practices in Peer Tutoring

In Autumn 2017, Vanier College's Learning Commons proudly published Learning to Peer Tutor: 25 Questions Novice Tutors Ask. *TASC's Ashley Rankin sat down with the author, Joshua Berman – also of TASC – to discuss key takeaways from the book.*

Ashley: When did you become passionate about peer tutoring?

Joshua: Growing up, I actually wanted to be a sports journalist. While studying media at Concordia University, I needed part-time work and became a peer tutor. It did not take very long for me to fall in love with helping my fellow classmates succeed. When I found out I could make an actual job of it, I quickly decided to change my career trajectory. That look a student gets when they learn something new still gives me a feeling unlike any other.

You recently published your first book; what led you to write *Learning to Peer Tutor***?**

I know first-hand that tutoring comes with an array of challenges. I studied peer tutoring instructional strategies for my PERFORMA research under the supervision of Jock Mackay. Although I shared my findings at a few academic conferences, I had always envisioned creating a practical resource for tutors new to their role.

How did your understanding of best practices in peer tutoring change after completing your M.Ed.?

I always thought tutors needed a solid understanding of the material they were tutoring, and that the work required patience and empathy. However, there are some less obvious components necessary as well. Qualities such as active listening skills and enthusiasm for tutoring and learning are important. Knowledge of sound peer tutoring pedagogy that foster's tutee autonomy is essential.

What is tutoring pedagogy and why is it so important?

If a tutor were to do a tutee's work for them, the tutee would quickly learn that it was "okay" to come to the tutoring sessions unprepared or having attempted no challenging work beforehand. This mis-educative practice facilitates dependence and counters the purpose of peer tutoring. Tutoring pedagogy involves what the tutor can do to put the tutee at the centre of the tutoring to help the tutee become autonomous.

Is there anything a peer tutor can do to improve their practice?

Before novice tutors begin, they should be matched with an experienced peer tutor. Learning to Peer Tutor describes areas to focus on when observing your peer tutor. To improve, tutors should continually reflect upon their developing skills. In the book, I've included a tool with 13 elements to reflect upon at various points in the semester. Tutors can also improve by asking tutees for formative feedback during their sessions.

What are some common misconceptions about peer tutoring?

Students with an A+ in a course do not automatically make effective peer tutors. This sort of parallels the notion that a brilliant mathematician or musician is not necessarily going to be a successful math or music teacher. Further, a student with a solid understanding of course material, who is caring and has appropriate interpersonal skills, still needs an appreciation of pedagogical knowledge to set their tutee up for success.

What challenges do novice tutors face?

Novice tutors are inclined to showcase their knowledge rather than help the learner develop theirs. Many novice tutors assume that if they aren't talking, the tutee mustn't be learning. This approach forces the tutee to assume a more passive, observational role.

Does this relate to the term you use in your book, 'helicopter tutoring'?

Yes, absolutely.

Can you explain what you mean by 'helicopter tutoring'?

While completing my M.Ed., my wife and I had two children and would often hear of the dangers of 'helicopter parenting'. As we raise our boys, now aged four and six, we try to resist hovering, but your instincts are to protect your kids from anything negative. I think the same concept may apply to peer tutoring – novice tutors' instincts are to prevent tutees from making mistakes and to intervene before mistakes are made. Helicopter tutoring prevents errors in the short term, but it is precisely in a tutoring session where it can be useful to make mistakes. College students are more inclined to take a deep approach to learning when they can try, fail, get feedback, and try again before they are more formally assessed by a teacher.

What challenges did you have writing the book?

The main challenge was providing answers to the 25 questions that resonate with emerging adults. I strived to combine the theory I learned in my M.Ed. with teaching, tutoring and learning experiences to make the book as practical a resource as possible. To try to achieve this, I collaborated with 18 people, including teachers, academic advisors, specialists in the field of teaching, learning and pedagogy, and, perhaps most importantly, peer tutors. The six Vanier peer tutors I worked with over two summers helped formulate the questions and helped ensure that the answers would be meaningful for their peers. In this sense, I think the book is really a product of collaboration.

What do you hope novice tutors will get out of *Learning to Peer Tutor*?

Many of the strategies revolve around the idea that learning is doing and that learning is work. The tutor who sees their tutee not as an empty receptacle needing to be filled, but rather as an individual full of prior knowledge and experiences, will understand that their role is more to facilitate learning than simply to provide information.

That seems like good advice; could you briefly describe a few other strategies in your book?

One strategy involves proxemics. The work should ideally be in front of the tutee. Tutees will slowly and subtly push the work in front of their tutor, as if to say, "You can do it, why don't you just take over?" I advise tutors to clearly push the work back in front of the tutee to send the message that the ownership of the learning rests with the tutee. Another aspect of proxemics involves using physical space. While the tutee tries to apply what was covered, tutors should physically move back a few feet. This signals that it is now the tutee's turn to demonstrate understanding.

Another strategy involves praise. Rather than praising a tutee's natural ability or intelligence, the tutor should praise the tutee's stick-to-itiveness. Feedback prioritizing perseverance rather than natural intelligence helps tutees to adopt a mindset to not give up as course material becomes increasingly challenging.

Do you have any new projects on the horizon?

In 2016, TASC launched a tutor excellence award that I would like to expand. The award, nominated by tutees, is based upon eight specific criteria that embody an exceptional peer tutor. We've given out four awards so far; I think the award is a nice way to celebrate excellence in peer tutoring.

In the near future, I also plan to create a peer tutoring blog. I envision it as an online collective, a space for all peer tutors to ask questions and share ideas, struggles and strategies related to tutoring.

To anyone who still thinks that peer tutoring is just the blind leading the blind, what value is there in peer tutoring?

To be clear, peer tutoring is not at all a substitute for class time, and it can never replace students seeing teachers in office hours. However, I conclude the book suggesting that when tutors are able to relate to the challenges that tutees face, and when they provide a warm, non-threatening environment where the tutee is habitually active and is unafraid to make mistakes, there is indeed tremendous potential. Using sound pedagogy while collaborating, college students can help their peers engage in course material in deep and meaningful ways.

Over the past few years, I have been identifying some of the benefits and development opportunities for tutors themselves. In reflecting upon their tutoring experience, tutors have suggested that they've developed in four categories: 1) Academics, 2) Communication Skills, 3) Emotional Intelligence, and 4) Leadership Skills. I look forward to collaborating with my colleagues in TASC and throughout the College as we explore new ways of maximising the positive impact that peer tutoring can have on Vanier students.

Learning to Peer Tutor is currently available through the Vanier College Library. If you wish to comment on this article or discuss any aspect of peer tutoring with Ashley or Joshua, they can be reached at rankina@ vanier.college and bermanj@vanier.college.

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Creative Thinking in Higher Education

PSI's Elana Cooperberg and David Hoida, both experienced teachers with an expertise in the cultivation of students' creativity, co-authored the following piece on the power of strategic creative problem-solving.

Elana:

A student stops me as I walk up and down the aisles during an exam and asks, "Is this answer long enough, miss?" Pointing to the paragraph he's written, he is genuinely concerned and wonders if the number of sentences is sufficient to grant him a good grade. It is not the first time I have been asked this type of question. "How many words does the paper have to be?", "Is this going to be on the test?" Often, students are more concerned with the mechanics of their assignments and tests than with the deep knowing and understanding they can gain from their courses. They are for the most part strategic thinkers, focused on good grades, and not on learning. But who can really blame them? Historically, education has used grading systems to reward students, and indeed, in the minds of many students, strong marks are synonymous with mastery itself (Shepard, 2000). For centuries, education has been centred around the transfer of knowledge from expert to novice and the validation of learning by traditional testing methods. However, we must ask ourselves as educators in the 21st century: is this the best we can offer our students?

The competitive nature of a globalized world has expectations for students that differ dramatically from traditional ideas about education. Students must think in increasingly complex ways. They are expected to solve elaborate problems by employing critical and creative thinking strategies, making connections between and within disciplines, and showing a sophisticated level of cognitive processing and meaning-making (Haynes, 2002). While achieving these levels of cognitive engagement may sound unattainable, there are numerous steps we can take to help our students get there. Many of us already work with our students to build their meaning-making abilities, engaging them in

ways that deepen their learning. Judy Ingerman and Jailson Lima are both involved in projects that work toward developing students' abilities to think beyond traditional learning approaches. Judy has developed an active reading workshop that builds students' deep reading and analytical skills. Jailson has built a repertoire of student work that develops creativity in the learning of science (Lima, 2011). For my part, the creativity workshop I have developed and the implementation of creative thinking exercises in my classroom have provided students with opportunities to expand their thinking within the business discipline.

Thinking creatively has long been discussed in the research on business education (Bleedorn, 1993; Chandler & Teckchandani, 2015; McIntyre et al., 2003; Schlee & Harich, 2014; Smith, 2003). It is a necessary requirement for business success. The development of innovative and novel approaches to building relationships with stakeholders, developing new products and services, and identifying opportunities within existing marketplaces all require creative and critical thinkers. As a Commerce teacher, I recognize the difficulty in teaching creative thinking skills. Students tend to be goal-oriented, concerned with acceptance into a university business faculty and pursuit of a career that grants them financial freedom. It is a linear path that they follow, relying on a traditional understanding of how the business world functions. Yet research consistently refers to increased levels of competition within our globalized world and the need for professionals to think critically and creatively (McIntyre et al., 2003). There seems to be a disconnect between how students learn and what they need for success within university business programs and later on in their careers. There

are solutions, of course, and these can be found within our pedagogical understanding of what builds expertise within our disciplines. For business, expert knowledge includes critical and creative thinking elements. It also includes intuition and instinct, natural by-products of the strategic creative thinking process. Building strategic creative thinking strategies within the curriculum will lead students to understand, recognize, and acknowledge their intuitive skills (Weaver, 2014). Cultivating students' creative thinking can only benefit their learning and improve their understanding of themselves and the subject matter.

Dave:

I began working as a pedagogical counsellor at Vanier College in the autumn 2017 semester. In seeking out opportunities to connect with Vanier pedagogical culture, I discovered the *Unleashing your Creativity* workshop that Elana offered at the 2017 Social Science festival. As I sat in the workshop alongside Vanier students, it was striking how Elana's goals for her college-level students were similar to the expectations I hold for the graduate students I teach in my *Creativity and its Cultivation* course at McGill University.

My students, who are for the most part teachers themselves, have achieved academic and professional success by engaging in strategic, goal-oriented thinking, but in many cases, this success has been attained at the expense of the individuals' creativity. While my students are able to effectively analyze situations and efficiently respond to academic and professional demands by proposing tried-and-true solutions, they are simultaneously stifling their risk-taking instincts. My role as a teacher is to encourage my students'

redefinition of existing problems to support their development of innovative solutions. My goal is to foster that which is most difficult to capture: creative thought. The result of creative thought is the creative solution, a novel method that has value in the context in which it is applied (Halpern, 2003).

The first assignment I give to my McGill students is a reflective journal entry. The

> **While achieving these levels of cognitive engagement may sound unattainable, there are numerous steps we can take to help our students get there.**

guidelines are very open ended; the critical criterion is to creatively (that is, in a new and valuable way), reflect on one's connection to the course material in a manner that provides evidence of an enduring change that will have positive ramifications in different future contexts. More simply put: they must reflect creatively on the impact of their learning. So when the most frequently asked questions I receive semester after semester are, "How long does the journal have to be?" and "What format would you like the journal to be in?", my conviction that the cultivation of students' creativity is vital to a successful educational experience is reaffirmed.

Over time, I have realized that my goal of promoting and cultivating creative thought could best be achieved by triggering my students' intrinsic motivation for success and their desire for professional growth. Consequently, I shifted the focus from being creative for creativity's sake to employing creative thinking to develop strategies for success. I began to ask my students to engage in strategic creative problem solving. This engagement calls upon students to first analyze their process of creative thinking. They are then encouraged to frame this thinking as a skill to develop during course challenges that

employ mastery goal characteristics. This process yields a newfound appreciation for creativity and the value it holds in the design of teaching and learning experiences that my students will put into practice in their own classrooms. The end result is quite dynamic. With the goal of fostering a deep integration of course concepts and skills, a teacher will find themselves designing innovative and accessible opportunities for students that allow them to acquire course competencies through the utilization of strategies such as Universal Design, Backward Design, differentiation, and cross curricular and inter-disciplinary collaboration. So how can one design a course that helps students achieve these creative goals? I propose considering creative thinking as a *skill* one can develop by targeting the components of creative thought that can be honed through opportunities directed toward a purpose.

Such components include:
- **Abstraction:** The ability to conceptualize.
- **Connection:** The ability to make links between ideas or things that are not obviously related.
- **Perspective:** The ability to shift one's understanding of a situation, in terms of space, time, and other people.
- **Curiosity:** The desire to question, change, or improve things that others accept as the norm.
- **Boldness:** The confidence to challenge accepted conventions and shirk fears about what others may think of you.
- **Paradox:** The ability to simultaneously accept and work with statements that are contradictory.

- **Complexity:** The ability to cope with large quantities of information, managing and manipulating the relationships between such information.
- **Persistence:** The ability to persevere in the pursuit of more and stronger solutions, even when good ones already exist (Surovek et al., 2015).

Elana:
In order to promote students' success as creative thinkers and deep learners, one must consider the context in which they are developing strategic creative problem solving skills, including unique discipline-specific challenges/demands and the individuals' relationships with creativity (Plucker et al., 2004). To put theory into practice, we will return to a consideration of the specific creative context of the business discipline.

I designed the Unleashing your Creativity *workshop to increase students' intrinsic motivation through application of creative and critical problem-solving activities. Intrinsic motivation is a necessary component of the time a student devotes to a task, which is directly related to the process of 'flow,' which is defined as full engagement in an activity (Csikszentmihalyi, 1997). This level of engagement not only builds deeper meaning; it increases personal satisfaction levels and leads to greater intrinsic motivation. Activities that encourage a state of 'flow' must be challenging to students – if they are too difficult, students will lose the flow. If activities are too easy, they will never attain it. Learning activities must thus be within reach of students' abilities while requiring them to use their cognitive skills, modify these skills as needed, and challenge their beliefs depending on the outcome. Introducing activities in a low-risk setting like a workshop, or within the classroom environment, encourages students to actively engage with one another and the pre-defined task, thereby increasing the skills needed to solve problems, and in turn, enhancing critical and creative thinking. The goal of the creativity workshop has been to reduce*

concerns over details of assignments, tests, and other summative evaluations, and push students to reflect meaningfully on their learning. Helping students develop a deeper understanding of their own learning and supporting them in making connections between disciplines has been at the forefront of my creative thinking quest as an educator.

There is a tremendous body of research in the field of strategic creative problem solving and higher education. Encouraging students through open-ended questions, reflection and journaling, brainstorming, group work, and in-class activities engages students in ways that connect them more deeply to their own learning. These opportunities then lead to higher-level processing of information, building mastery that is transferable to other disciplines. To build creative thinking skills in our students is to provide them with the opportunity to think boldly, solve innovatively, and grow in ways that will change their lives and the lives of others.

Elana Cooperberg
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Facilitating Intercultural Competence: A Pilot Project at Vanier College

Why Intercultural Competence?

The goal of the pilot study was to find effective ways to increase students' intercultural competence, the capacity of students to shift their cultural perspectives and adapt their behaviour to the cultural differences and commonalities surrounding them (Hammer, 2012). Both the Quebec government and Vanier College have underlined the importance of educating students to navigate their lives in a globalised world. Intercultural competence is a vital ability that will assist students personally and professionally.

In order for educational institutions to be sites of personal development, citizenship building and inclusion, diversity must be actively attended to or "activated" (Chang, 1999; Chang et al., 2006; Pitt & Packard, 2012). Intercultural competence helps leverage diversity in a manner that assists learning for the majority of students. The academic literature clearly links marginalisation and social exclusion to lower academic success rates (Fichten et al., 2014). Researchers have found that increasing students' intercultural competence helps to create a more welcoming environment (Whitelaw, 2016), improving academic success rates in the process (Mohawk College, 2012). Interculturally competent students gain skills for their future while potentially improving the academic success of their peers.

Methodology

A volunteer sample of 22 Vanier College students from two sections of the humanities World Views course, *Being Canadian*, were recruited to participate in the project. Seventeen completed the Intercultural Development Inventory (IDI), a fifty-item questionnaire that measures intercultural competence. The IDI was selected because it is used worldwide and enjoys a high level of validity (Hammer, 2012). The result on the IDI situates the individual in terms of orientation to cultural difference along the Intercultural Development Continuum (IDC). The IDC ranges from the monocultural orientations of Denial (misses difference) and Polarisation (judges difference), to the transitional phase of Minimisation (highlights similarities), to the intercultural orientations of Acceptance (understands difference) and Adaptation (bridges across difference) (Hammer, 2012, p. 118-124) (Figure. 1). Following an analysis of responses, the IDI result was presented to each student along with an Intercultural Development Plan (IDP), tailored specifically to their orientation to cultural difference.
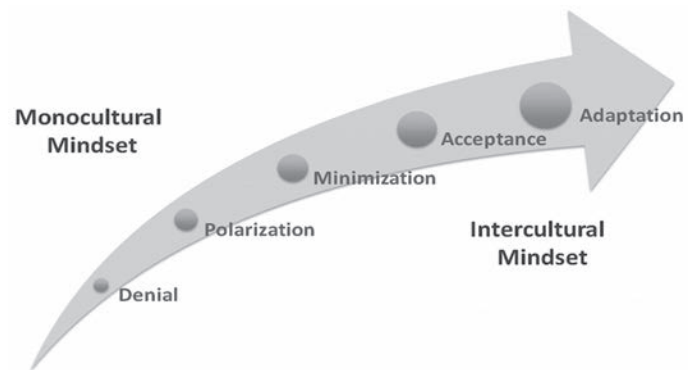

Figure 1: Intercultural Development Continuum
(Hammer, 2012, p. 119)

At the end of the semester, students were sent a follow-up survey to assess their perception of their intercultural development. Students were also asked to evaluate the effectiveness of the IDI, IDC, their IDP, and course activities, assignments and materials. Eight of the 17 participants completed the follow-up survey.

Findings and Discussion

Group Report
According to the IDI Group Report, which provides a summary of key features of the respondents, 65% of the students had lived in another country and 75% were Canadian citizens. Based on the results on the IDI, the participants oriented to cultural difference in the following manner: 0 Adaptation; 1 Acceptance; 9 Minimization; 6 Polarization; 1 Denial. Of particular relevance is that only one of the students was orienting to cultural difference at an intercultural level. Although a pilot study, this does point to the potential need for intercultural competence development of Vanier students.

Orientation Gap
The necessity for intercultural competence development is further supported when one considers that the average Orientation Gap, the difference between how someone believes they are orienting to cultural difference (Perceived Orientation) and how they are actually orienting to cultural difference (Developmental Orientation) was

31 points. Anything above 7 points is considered meaningful. The participants, on average, believed that they were orienting two levels ahead of where they actually were on the IDC. For example, a student orienting from a Polarization (monocultural) level could believe they are actually orienting at a level of Acceptance (intercultural). This is important for the student to know because in an intercultural exchange, they may believe that they are understanding difference deeply, when in fact they may be experiencing difference in superficial and stereotypical ways. There is also a risk that students will think that personal intercultural development is not needed because they believe that they are already highly capable. One student expressed their appreciation for being made aware of their IDI results in the following manner: "this IDI was essential, miss. You gave us the theory, but knowing where we stood helped us know where to start."

The results on the follow-up survey indicated that the average perceived Orientation Gap was reduced by 50%, which represents one full level of development and suggests a more realistic self-assessment of intercultural competence. This may be attributed a number of possible factors. Being made aware of their orientation to cultural difference at the beginning of the semester gave students a realistic sense of their intercultural capabilities. In addition, students expressed that the course provided many opportunities for intercultural competence growth.

Intercultural Development Plan
Each student was presented with an Intercultural Development Plan (IDP), which was tailored to the results on the IDI. In concert with each student, suggestions were made for intercultural development. An example of this would be the case of students who were orienting to cultural difference at the level of Minimization. At this level, there is a tendency to minimize difference, to see people as all being very similar, and, that differences are just not that important. Students orienting at this level were invited to find out more about their own and others' cultural beliefs, values and practices. Some students were very reticent to ask others about their culture because they thought that it would be impolite and potentially racist to ask. To address their concerns, a discussion of the role of context and ways that questions about culture and identity could be asked in a respectful fashion was broached. Students were also asked if they would be insulted if someone asked them about their own culture, respectfully and in a spirit of curiosity. All said that they would be happy to oblige and did already share such information. Later on in the semester, students expressed that they had learned about and felt closer to the people that they had approached with their questions. The following conveys this position well: "I find that people want to share knowledge, you just have to ask" and "it becomes easier each time I ask someone". These opportunities for interaction are important insofar as meaningfully and respectfully engaging with people from diverse backgrounds may promote inclusion (Whitelaw, 2016) while simultaneously encouraging a deeper understanding of similarities and differences.

Another example of recommendations based on the IDP was for students orienting to cultural difference at the level of Polarization.

At this level, difference is seen but tends to be judged negatively or positively, often based on stereotypes. While those orienting to cultural difference at the level of Minimization were asked to attend to differences, those orienting at the level of Polarization were asked to see similarities between themselves and those they deemed to be different. In other words, they were being encouraged to shift to the level of Minimization. Meanwhile, those orienting at the level of Minimization were provided with means to help them reach the level of Acceptance, by seeing and understanding meaningful difference.

Four out of the eight respondents tried at least one suggestion based on the IDP. They all reported that the activity supported their intercultural development.

> *Meaningfully and respectfully engaging with people from diverse backgrounds may promote inclusion while simultaneously encouraging a deeper understanding of similarities and differences.*

Additional Pedagogical Considerations

Self-Awareness
In addition to one-on-one feedback sessions, course design, assignments, readings and activities were geared to facilitate intercultural development. There is evidence that this is an effective approach to curricular and pedagogical development at the university level (Kruse, Perzynski, & Didion, 2014). Pedagogical activities and approaches were assessed to determine their usefulness at the college level.

One key aspect of intercultural competence development is cultural self-awareness (Berardo & Deardorff, 2012). This was accomplished in a number of ways. Students were taught the basics of the concept of culture then asked to write about their own and share with a peer. Most soon discovered that the task was harder than it sounded. Some came to realise that it is difficult to recognise one's culture when it is the 'norm' and one is constantly immersed. Also of importance was for students to discover that for some of their peers, the opposite was true. As minorities along many possible continua, they were reminded of belonging to a potentially marginalised social position regularly and by virtue of navigating from such positions, were likely to be more culturally self-aware.

The first assignment of the course *What is a Worldview?* required that students research the concept of a worldview and to provide a detailed example. Students then shared their answers, followed by a group presentation. This activity gave students an initial introduction to worldviews and set the stage for various viewpoints and perspectives. A goal was for students to see that they had one of many possible perspectives, to de-center the idea of Truth and realise that there may be many different perceptions of the same phenomena. All

the participants found that the activity was effective in their intercultural competence development. Another activity that the respondents found effective was a Modified Privilege Exercise, which encouraged self-awareness on a number of axes.

Assignments and questions following documentaries were used to move from providing valuable content in the first instance, to a metacognitive level of self-awareness by asking students to consider why their opinions might be similar or different compared to those in the film, or their fellow classmates. An additional objective was for the students to be able to make the link between explicit, that which is visible, and implicit culture, the ideas, beliefs and values underpinning actions/rituals/ways of being. One student notes, "Seeking for understanding one's point of view was really interesting and at the same time effective in order to improve my intercultural competency skills."

Multiple Perspectives

A building block of intercultural development is to encourage and be aware of multiple perspectives (Dimitrov & Haque, 2016). One additional benefit of multiple perspectives is that it may also serve as a means of encouraging a sense of inclusion among students. When students see the theories, views and experiences of people from their backgrounds reflected in the course materials, they may sense that they too are valued. The Being Canadian course pack includes research articles by Indigenous and immigrant scholars addressing issues of marginalisation, social class, non-recognition of credentials, and history in the present.

Documentaries are shown in the course that include first-person accounts by people who have faced challenges in Canada including people seeking refugee status; Indigenous people who explain some of the effects of Residential School and the colonisation of their lands; as well as people who have faced racism, among other social justice issues. The goal is to have students hear directly from people who have had the experiences. This lends credibility to the issues and helps the students to become aware on a level that encourages understanding and empathy. When asked which documentaries, if any, assisted their intercultural development one student responded, "All of them, because they informed us about how some social issues related to culture are still present in Canada, such as white privilege and the difficulties Indigenous people have to face." This awareness will be helpful regardless of the level of intercultural competence.

Dialogue

Dialogue was actively encouraged as was feedback on course films, activities and materials. Pitt and Packard (2012) note that the formal interactions that take place in a course discussion offer the most potential for educators to extract the benefits of structural diversity on college campuses (p.315). Of note is that when asked which aspects of the course helped them to develop their intercultural competence,

all eight believed that hearing the views of others was very effective. Seven believed sharing their own views was helpful. One student who was orienting to cultural difference at the level of Polarization noted, "in a way, just acknowledging others' views, and listening to them didn't just help me to understand their view but to understand their culture." The wording of this response is already indicating an understanding of the complexity of communication, and the connection between explicit and implicit culture.

In order for dialogue to be effective, students need to feel that they are able to share their views and be respected. One respondent explains, "our class was really open to new opinions and I did not feel like I was being judged." Please note that while the student did not feel judged, this did not mean that all opinions or views needed to be accepted. On the contrary, engaging with different views is essential for intercultural competence development. Of relevance is at the start of the semester some of the students would quickly jump in with a contrary opinion but by the second half they tended to ask questions and for clarifications before taking a position. This spirit of curiosity is invaluable in intercultural work and encourages informed intellectual debate.

> *Some came to realise that it is difficult to recognise one's culture when it is the 'norm' and one is constantly immersed.*

Intent Versus Perception

Another key aspect of intercultural learning is the difference between intent and perception. Simply put, what one intends is not always perceived in the same way and this can and does cause intercultural friction (Qin, 2014). A modified version of PhotoVoice (Lefebvre, 2012) was used for students to explore intent versus perception. Students were invited to take two photos, one of inclusion and the other of exclusion. They then wrote on the back of each photo whether it represented inclusion or exclusion and the reasons why. During class, students exchanged photos and assessed four, deciding whether each represented inclusion or exclusion. Once that was done, they would flip the photo over to see what the photographer had intended. Students then reflected upon potential reasons for similarities or differences in interpretation. Survey respondents noted that this was a very useful activity that should be repeated in future semesters.

Conclusion

The students' assessments at the end of the course suggest that the IDI, pedagogical approaches, assignments and course design were effective means for building intercultural competence. Two quotes by participants summarise the some of the benefits well:

"When people talk together and they say something very biased about another culture, I feel the need to explain to them that things are not exactly as they seem and that other person that they consider different from them has his or her own reasons to act that way."

"It was a very interesting class. I believe that what I learned in it will help me not just to get grades but also to be a person."

Building intercultural competence is not the purview of a single department or instructor. The author's future research seeks to make means of facilitating students' intercultural development applicable across faculties, promoting the likelihood that graduates have a key skill to live as effective and engaged citizens in a global environment.

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Vanier Researcher Profile
Philippe Gagné

Philippe Gagné's research on intercultural twinning focuses on bringing students from different linguistic backgrounds together. As Philippe explained, the students involved in such projects "won't lose all prejudices, but they will change, and the impact of their prejudices will diminish." An additional goal of his research is to investigate how intercultural twinning can affect the motivation of students to learn French as a second language. The report that Philippe and his collaborator Maria Popica of John Abbott College created based on the results of a recent PAREA-funded research project, *Perceptions et motivation à l'égard du français langue seconde enseigné au Québec*, has been published online.

Philippe's journey into research began with a Ministry-led project to create a tool to assess students' abilities in their second language. Although that project ultimately died before its goals could be achieved, it inspired Philippe to become involved in future research projects. As a collaborator on projects led by a more experienced researcher, Philippe had the opportunity to observe how projects are handled, including questions of how to measure data, how to design protocols, and who to contact. Although he explained that it is possible to learn about how to do research from reading a book – Philippe recommends Louise Gaudreau's *Guide pratique pour créer et évaluer une recherche scientifique en éducation* – he emphasized that learning about research is "better when learning from someone who knows what they are doing."

When I asked Philippe about the highlights of his research experience so far, he spoke about discovering the "richness" involved in collaborating with others. For him, collaboration takes place not only with colleagues from other institutions but also with Vanier colleagues like Isabelle Der Apprahamian and Avery Rueb, who will come into his office to talk about problems, methods, and critical confrontations. Philippe also talked about the value of learning humility, especially as his personal investment in the research results has grown, as he has taken part in projects that force him to rely on others and to share control and responsibilities. This practice of letting go of control also represents one of the biggest challenges of the research process, especially when it comes to a multi-site project with many players involved.

Preparation was a key part of the research that Philippe emphasized during our conversation. He noted the importance of trying to "pre-experiment everything" in order to anticipate potential problems that might arise. For example, before distributing a questionnaire to an entire class, Philippe has some participants go through a "think-aloud" process, where they talk through their thought processes as they go through the survey. That way, if there are any questions that are confusing or not being understood as the researcher intended, they can be addressed before the questionnaire is more widely circulated. Still, problems may occur… Philippe discussed the importance of continuing to seek opportunities to learn about research, whether this is by piloting studies in classrooms, reading books (including both quantitative and qualitative methodologies), and even sitting in on UB workshops for students in methodology classes.

For teachers wanting to apply for external grants, Philippe noted that the process can be difficult, especially with a grant program like PAREA, which requires a long written component. He noted that many teachers may find the process of defining a problem, theoretical framework, and methodology daunting, and that it is helpful to work with collaborators and with the *Association pour la recherche au collégial*, which can offer support and mentorship.

> *This practice of letting go of control represents one of the biggest challenges of the research process...*

Philippe's next project involves a grant proposal to continue his work on intercultural twinning, this time with a focus on bringing specific programs together. He will be collaborating with researchers from Cégep de Victoriaville, John Abbott College, and Cégep de Saint-Laurent. He is also working on establishing a research group with UQAM with a focus on intercultural twinning, bringing together experts on the issue and providing an opportunity to continue to network and build his knowledge and expertise.

To access Philippe's publication *Perceptions et motivation à l'égard du français langue seconde enseigné au Québec*, please visit: https://eduq.info/xmlui/bitstream/handle/11515/34764/784777-gagne-popica-perceptions-motivation-cegepiens-fls-vanier-john-abbott-PAREA-2017.pdf

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